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EXTRACTION OF PHYTOSTEROL IN LEGUME PODS *OF PARKIA SPECIOSA*, *LEUCAENA LEUCOCEPHALA* AND *ARCHIDENDRON JIRINGA*

N. Hashim, [1] N. Ahmad,[1] N. A. M. Azman,[1,2]

[1] *Faculty of Chemical & Natural Resources Engineering,* [2] *Universiti Malaysia Pahang 26300 Gambang, Pahang, Malaysia.*
*Corresponding author: lelihashim@yahoo.com

This study is focusing on the effect of phytosterol concentration in different legume pod by using different parameters in the microwave assisted hydrodistillation (MAH) extraction. MAH is preferable compared to other conservative extraction methods where it used less energy and time but produced the higher yield of product. Beta-sitosterol has many benefits such as cancer cell inhibitor and lowering blood cholesterol level. The extraction processes have been done by using microwave assisted hydrodistillation unit at different parameter which are temperature (25ºC to 80ºC), solvent concentration (100% to 50%), extraction duration (1 to 10 min) and irradiation power (100W to 800W). Respectively to the study, 75% solvent concentration, extraction duration of 6 minutes, extraction temperature of 75ºC and irradiation power of 600W were the best parameter condition to perform the extraction process. Result shows that beta-sitosterol which is belong to the family of phytosteroid were present more in *Leucaena leucocephala* with the average of 0.506813 mg/mL as compared to *Parkia speciosa* with the average of 0.103356 mg/mL and *Archidendron jiringa* with the average of 0.068104 mg/mL respectively. As the conclusion, *L. leucocephala* legume pod has a higher concentration of beta-sitosterol as compared to *A. jiringa* and *p. speciosa.*

Keywords: Beta-sitosterol; MAH; *P. Speciosa; L. leucaphala; A. jiringa*

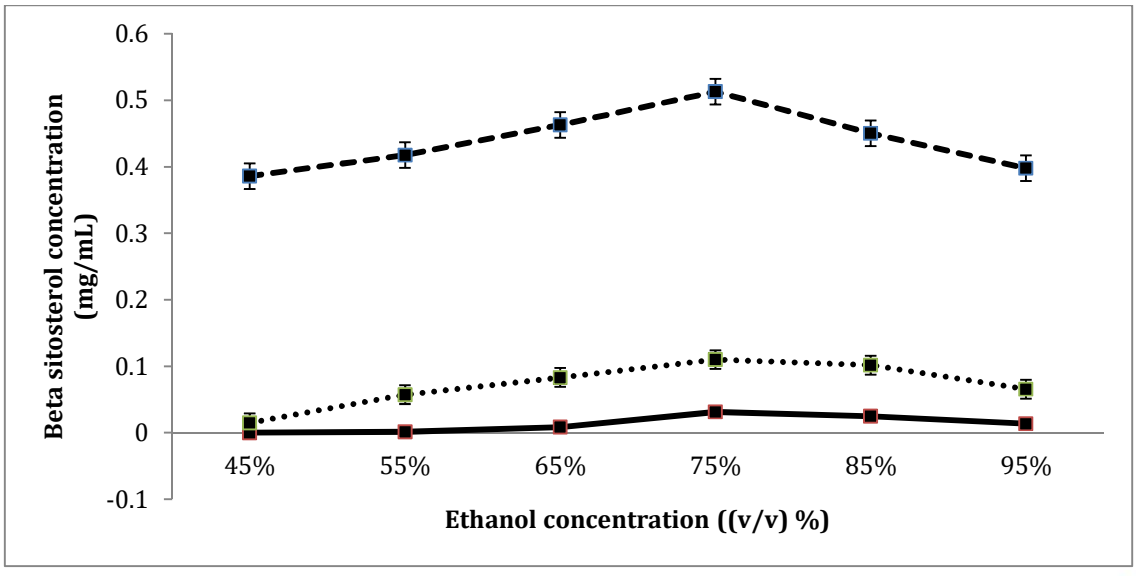

Figure 1.1 : Concentration of beta sitosterol present at different ethanol concentration in ( ) *Leucaena leucocephala*, ( )*Archidendron jiringa*, ( ) *Parkia speciosa*

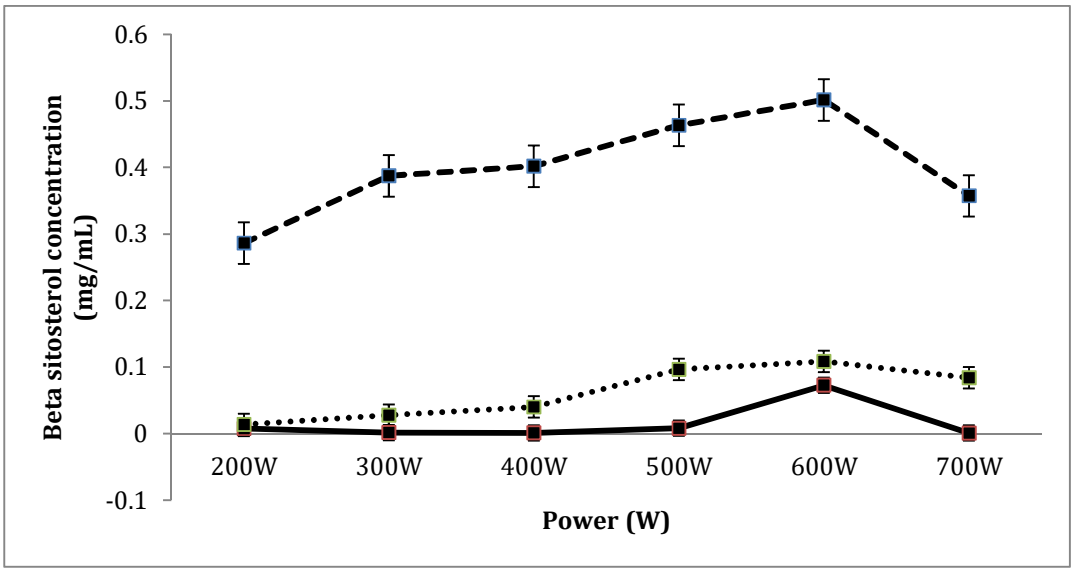

Figure 1.2: Concentration of beta sitosterol present at different extraction power in ( ) *Leucaena leucocephala*, ( )*Archidendron jiringa*, ( ) *Parkia speciosa*

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